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FOR IMMEDIATE RELEASE

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Agricultural engineers at Cornell help improve the water quality of Lake Ontario

By Timothy P. Krakowiak

GENEVA, NY: Cornell researchers are collaborating with growers and environmental agencies in a project to protect the Lake Ontario watershed from pesticide run-off.

Cornell agricultural engineer Andrew Landers and the Orleans County Soil & Water Conservation District (SWCD) have secured a \$472,000 Conservation Innovation Grant from the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) that will help apple growers sustain the environment -electronically.

The grant will provide 10 apple growers in Orleans County with nearly half the cost of a new \$44,000 Durand Wayland SmartSpray device. The precision tower sprayer uses sensor-controlled technology, or electronic eyes, to recognize the presence or absence of tree canopy and tree height. Using this "smart" sprayer reduces the amount of applied pesticide and its associated drift, and decreases the total cost of pesticide application.

"This grant allows us to conduct an exciting applied research and extension project," said Landers, leader of the pesticide application technology team at the New York State Agricultural Experiment Station (NYSAES) in Geneva. "Obtaining application data from 10 growers and conducting research with co-operating growers at their orchards will allow us to obtain very useful information with regard to reduced application per acre and drift reduction."

The growers who choose to participate in the two-year trial must document the volume of spray used, and the number of acres and fields sprayed during the growing season. SmartSpray's tractor-mounted controller simplifies the process by providing data on total acres sprayed, acres sprayed per hour, ground speed, and percentage of chemicals saved versus traditional spraying. Landers and his team will then use the data to quantify the sprayer's potential to meet the economic and environmental needs of fruit growers in Western New York, and, ultimately, growers throughout the state and nation.

A SWCD representative will meet monthly with farmers to document progress and share data. Results of chemical reduction will be discussed at the annual growers' conference in Syracuse, NY, as well as various grower workshops and presentations. The Lake Plains Resource Conservation and Development (RC&D) is also backing the grant effort by providing administrative support to the Orleans County SWCD throughout the two-year trial, including help with mailings, field tours and meetings.

"These farmers should be recognized for the amount of time and money they are investing into this grant," said Orleans County SWCD District Manager James Kingston. "Although 46 percent of the cost is paid for through the grant, the remaining 54 percent is still greater than the cost of a new conventional sprayer. Also, these farmers are taking a great risk that could lead to production loss if the technology does not work as well as the manufacturer indicated. This study will prove what type of orchards these sprayers are practical for and if the extra investment is worth it to the farmer."

On August 15, Landers and Kingston held an informational meeting in Albion, NY, to review grant deliverables with eligible farmers and discuss sprayer options. Following the meeting, representatives from Durand Wayland conducted a field demonstration at Kast Farms and answered questions.

"I was very impressed with the Durand tower sprayer. Its performance was superior to the conventional sprayer, particularly against the wind," said George Lamont of Lamont Fruit Farm, one of the top apple growers of Orleans County in attendance. "This grant will assist growers to purchase sprayers that will help us produce more uniform crops of fruit with less pest damage at a lower cost of pesticides which will result in a higher value crop at less cost for the consumer, with less environmental impact."

Pictures are linked to hi-res scans



Andrew Landers



A Durand Wayland representative reveals the accuracy of the electronic eye sensors on the tower during a SmartSpray demonstration at Kast Farms in Albion, NY.

One of the largest fresh water reservoirs in the world, Lake Ontario borders Orleans County. The lake provides recreation and travel opportunities and serves as a public drinking water resource and home for wildlife and aquatic species. It moderates land temperatures and provides an ideal environment for fruit production. Many of the orchards in Orleans County are within a few miles of the lake, thereby subjecting the watershed to pesticide pollution pressure when farmers spray their trees to control insects and disease.

"One of our primary goals is to support the effort of Orleans County farmers who work hard to be productive and profitable while being good stewards of the land," said Kingston. "By providing this cost share opportunity and getting local orchard growers involved we will be able to demonstrate this new technology that may provide benefits in the county and throughout the region."

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